1.Title of the thesis : Impact of Globalizationon Agricultural development in Chhattisgarh : An Economic Analysis.

2.Introduction :

Chhattisgarh is a state in Central India that was formed on Nov.1, 2000 by partitioning 16 Chhattisgarhi speaking south eastern districts of Madha Pradesh. Since the day of its formation in 2000, chhatisgarh has been working on to achieve a steady and stable economic growth. The state economy is entirely dependent on the most basic primary sector, such as agriculture and allied activities. According to the State Development Index; Chhatisgarh ranks sixth with very low yield of food-grains and high unemployment and poverty. Agriculture is counted as the chief economic occupation of the state. According to a government estimate, net sown area of the state is 4.828 million hectares and the gross sown area is 5.788 million hectares. Horticulture and animal husbandry also engage a major share of the total population of the state. About 80% of the population of the state is rural and the main livelihood of the villagers is agriculture and agriculture-based small industry.

The initiation of economic reforms in India in 1991 brought about major changes in the macro economic policy frame work of planned economy that existed in India during 1950-51 to 1990-91.By 1991, there was growing awareness about the inward looking import substitution and over valued exchange rate policy. Although no direct reference was made to agriculture it was argued that the new macro economic policy framework would benefit tradable agriculture by ending discrimination against it and by turning the term of trade in its favor .This in turn was supposed to promote exports leading to rapid agricultural growth.

But despite these changes in macro economic policy framework and trade liberalization , the agriculture sector in Chhattisgarh, neither experienced any significant growth nor it drive the expected benefits from trade liberalization. Even the condition of agriculture was worsened in the post reform period. Agreement on agriculture marks a new chapter in the history of agriculture. The WTO agreement provides a frame for the long term reform of agricultural trade and domestic policies over the year to come, with the objective of introducing increased market orientation in agricultural trade. It was expected that the implementation of agreement on agriculture would result in reduction of domestic support, which would improve export prospects for the states.

However, contrary to expectation international agriculture prices have declined sharply in the post WTO period and agricultural exports have also declined.

In Chhattisgarh majority of the farmers are still practicing the traditional methods of cultivation, resulting in low growth rates and productivity. The farmers have to be made aware of modern technologies suitable to their holdings. Providing adequate knowledge to the farmers is essential for better implementation of the agricultural development plans and to improve the productivity. Considering this and a very limited irrigated area, the productivity of not only rice but also other crops is low, hence the farmers are unable to obtain economic benefits from agriculture and it has remained as subsistence agriculture till now.

In Chhattisgarh, rice, the main crop, is grown on about 77% of the net sown area. Only about 20% of the area is under irrigation; the rest depends on rain. Of the three agro climatic zones, about 73% of the Chhattisgarh plains, 97% of the Bastar plateau and 95% of the northern hills are rainfed. The irrigated area available for double cropping is only 87,000 ha in Chhattisgarh plains and 2300 ha in Bastar plateau and northern hills. Due to this, the productivity of rice and other crops is low, hence the farmers are unable to obtain economic benefits from agriculture and it has remained as subsistence agriculture till now, though agriculture is the main occupation of more than 80% of the population.Similarly, the tribal people of Chhattisgarh are losing their sustainable means of subsistence due to the opening of mines and setting up of many mineral-based industries in the state. Chhattisgarh has 28 varieties of major minerals. The state has one-fifth of the country's iron ore deposits and one of the best quality iron ore deposits in the world in the Bailadila mines. The state also has the only deposit of tin ore in the country. Like Jharkhand and Orissa, it has huge deposits of coals, bauxite, limestone, dolomite and corundum. Since the government reforms stimulating economic liberalization have been enacted, all doors for private investment are open in Chhattisgarh. The state's Mineral Policy 2001 has facilitated large-scale private sector investment in the mining sector and this has had its fall out effects on the tribal people and other subsistence farmers. In the coal bearing zones of Sarguja, Raigarh and Bilaspur districts, more than 72,000 acres of land have been granted on lease to South Eastern Coalfields Limited (SECL), a subsidiary of CIL. Similarly, in Bastar and Durg districts more than 20,000 acres of land have been occupied for mining of iron ores in Bailadila and Dalli Rajhara areas of these two districts respectively. Apart from these

areas, the state has reportedly given on lease 18,652 acres for various mining purposes and 26,410 acres for the setting up of various industries such as cement, steel, Ferro-alloys, re-rolling mills and rice mills. This means all total 137,062 acres of land have been leased by the state for mining and mineral-based industries (George, 2004). This land could have sustained at least 34,265 families or around 180,000 people with an average distribution of four acres of land per family. How ever, in this state there is a low level of literacy among the tribals and the Scheduled Castes categories of the population and the industries and mines with high level of mechanization require technically skilled workers for their operations. As a result, very few among the land-affected families are likely to benefit from such development. The employment level of the nearby giant public sector steel plant at Bhilai in recent years has declined from around 64,000 in 1980s to around 33,000 in 2007 due to increasing automation and mechanization. In a similar manner, the employment opportunities provided by the mines and mineral-based industries in the past have declined considerably (Meher, Forthcoming). In this context, people displaced by the mines and mineral-based industries are likely to have a very difficult time sustaining themselves in the future, unless they are properly rehabilitated and skilled to earn their living in the non-agriculture based manufacturing and service sector economy of the region. While a few had found regular jobs in the Bhilai Steel Plant's iron mines and feel that they now have a better standard of living than their forefathers, others without any regular jobs have now realized that mining in the region has destroyed their sustainable and peaceful way of life of the past. For example, Mr. Patiram Tekam, who was displaced and presently works in the mines, reported that life was very hard for the tribal families of his village before the opening up of the mines in 1960s. Everybody had land, but it was infertile and rocky. Despite having 15 to 20 acres of land for every tribal family of the village, none was able to meet its annual subsistence needs from agriculture. The yield rate was very low, just two to three quintals of rice paddy per acre. That too was highly uncertain and subjected to vagaries of the monsoon rain. It was revealed from the discussion held with the people that around 300 acres of village's land was acquired by the BSP for its captive iron mine in 1963. People were paid cash compensation at the rate of Rs 1,500 per acre for the acquired land. In addition to that one family member of each family that lost land was given employment in the mine by the BSP. However, while only one person could get employment there were usually two to three legal heirs for all such holdings. People who got employment were only a

small minority. Now those who were given employment earn around Rs 10,000 and above per month and live well. In contrast, the majority from the same landholding family now split into three or four separate nuclear families live without any employment or land to sustain them. They struggle for their survival. Moreover, because of the increasing mechanized operation of the mines, employment opportunities for the illiterate tribal workers have been squeezed over the years. All the villages surrounding the mines area are predominantly inhabited by members of the Gond tribe, who used to have their sustainable living from the land and forest in the past. Before the mechanization of the mines in the region, some people had the opportunity to get wage employment in the mines either as daily wage labourers or piece rate workers. Now a days, except for regular BSP workers, only a few others can find work under the contractors. In 2007, a labourer working for one of the contractors received only Rs 80 per day as wage or Rs 40 per tonne of ore mined on a piece rate basis. The workers working for a contractor do not get any other benefits like sick leave, paid leave, medical benefits etc. With much difficulty, all such workers' families struggle hard to earn Rs 3,000 to 4,000 per month by putting their entire family members to work. More so, it was observed that almost half of the hard-earned money by the mine wageworkers was spent on country liquor. The mineworkers report that they cannot continue to do the hard work associated with their jobs in the mines without taking alcohol. Because of excessive consumption of liquor, many suffer from malnutrition and quite a few among them die at a very early age. The entire area is malaria prone and many of the people suffer from the disease. Also, quite a few of those who work in the mines develop respiratory diseases like asthma and tuberculosis after five to six years of continuous work in the mines. After losing scope of employment in the mine sector in the recent years, people now realize that mining is not a sustainable means of living for them. Many villages located below the mine area complain that their agriculture is now completely ruined after long exposure to the pollution generated by the mines. Because of the deposits of red late rite soil and iron oxide that get carried away along with the rain water from the mines to the agricultural land below, the fertility of the soil is lost. Day by day, the land is becoming more barren and the top soil is lost due to mining and large scale felling of trees. The villages near the mine are so severely affected by the pollution that they have made several representations to the District Collector in Durg to save them from increasing land and water pollution.

In August 2008, Mr. Pravin Patel, Director of the Tribal Welfare Society in Bilaspur, Chhattisgarh reported that the displaced tribals of HINDALCO's bauxite mines at Samri in Sarguja district of Chhattisgarh were leading a very pathetic life after losing their land and forest. Mr Patel said that the livelihood of thousands of tribals have been destroyed by the state to satisfy the greed of private corporations. According to him, HINDALCO by virtue of an agreement signed with the state of Madhya Pradesh in May 1997 has obtained mining leases for bauxite mining in Samri of Sarguja district. Although the entire Sarguja district is a Schedule Five area that supposedly protects the interests of tribal population, not a single village council meeting has been held to consult tribals and other villagers about the opening of mines, the selling of their lands or the granting of mining leases. The land of over 200 farmers most of whom are tribals have been coercively purchased or acquired since1997. The process is continuing each year with more and more land going for bauxite mining to HINDALCO.When land is acquired for the mines the farmers are paid at predetermined rates. According to Patel, there are many instances where no money is paid but land is taken over by the HINDALCO anyway. Also, some land has been ruined by HINDALCO and the tribal people who own this land are not able to cultivate this remaining farmland. There are many instances of violation of the agreement by the company, but the state government has not taken any action despite the many complaints and protests by the people who have been affected. According to the agreement signed by the state compensation for land was supposed to be paid based on its market value. In case of any dispute, the District Collector's decision is supposed to be final. The tribals complain that they have been forced to accept compensation money based on the value of their land determined by the company. Secondly, according to the agreement, HINDALCO is duty bound to pay each year the average annual income of the farm land to those whose land is taken on lease for mining. However, no one among the land holders whose land has been leased has received any money on this account. Also according to the agreement, HINDALCO is supposed to return the land in its original condition after the lease for opencast mining ends. Nonetheless, according to Patel, so far not a single inch of land has been restored to its original condition. Moreover, only some three among 100 have been provided with regular jobs. The rest others are exploited as cheaply paid daily wage contract workers by the company's contractors. All such contract workers are paid at the rate

of Rs 90 to Rs 94 per day and to qualify for such wage, the worker has to break a minimum of three metric tonnes of bauxite ore a day. According to Patel over 1,400 workers are presently working in the mines of HINDALCO in Samri. But none has any employment security. They do not get any medical or sick leave, and no paid holidays. Also, they are not provided with any safety gear and equipment in the work place.Those who are working as loaders for the transport contractors have a very miserable life. The average monthly income of such workers is around Rs 500 to Rs 600 only. The rates fi xed for loading a truck with nine metric tonnes of bauxite ore is Rs 200 only and that is shared by a group of six to eight persons. Much of the time, they sit idle and only get half a day's work. When their services are not required, they return home empty handed, as their work is paid on a piece rate basis. So far, the company has done very little for the welfare of the project-affected people. Rather it has thrown the tribals into a state of livelihood uncertainty. And many members of the most vulnerable section of population like widows and old people are living in desperate conditions after losing their land toHINDALCO (Patel, 2008).

Manmohan Shing (1903) the then Finance Minister in his inaugural address at the 54th annual conference of the Indian society of Agricultural Economics , brought to notice that a policy of heavy protection of the industrial sector operated to the disadvantage of the agricultural sector, when industrial prices were raised relative to world prices and thus the profitability of investing in industry was raised relative to agriculture. This would lead to shift of resources from agriculture to industry. Ahluwalia (1996) noted that over valuation of the exchange rate discouraged agricultural exports more than industrial exports. Various state level studies on rural wages shows that the annual growth rate for real wages for manual casual labor in agriculture decelerated from 3.3% per annum in 1993-94 to 2.1% per annum in 1994-2005. However, non agricultural wages for manual work increased at almost the same rate of 4% per annum both in pre reform and post reform. Agricultural growth in Chhattisgarh recorded a visible deceleration during the post liberalization period. Percentage share of agriculture in NSDP at constant prices is very low as compared to that of the industrial and service sector as shown from the following table -1.

Table-1

Share of Agriculture , Industry in NSDP of Chhattisgarh at constant prices.

Year	% share of agriculture	% share of Industry	
2001-04	4.34	4.83	
2004-08	6.5	8.12	
2008-09	7.6	11.5	

Source: RBI Hand book of statistics on Indian Economy and Economic survey of India 2010-11.

Share of Agriculture &Industry in GDP of India at factor cost (at 1999-2000)

Year	%share of agriculture	%share of industry
1950-51	55.1	13.6
1981-82	37.6	22.4
2006-07	18.5	24.6

At present crises of in agriculture and relative marginalization of agrarian interests in the state policy agenda can be mapped on the economic reforms in the state. Agricultural development in post independence in the state is marked by historic failure to the state to restore the agrarian question i.e. ending the extreme concentration of land ownership and use and weakening the factor that fostered disincentives in investment and technology adoption, tied workers to a social system with considerable pre modern feature and composed purchasing power. While this failure has shaped the pattern and nature of agricultural growth in the state after 1947. The implementation of economic reforms after 1991 has introduced new dimension to the contradictions of the earlier regime. Economy has registered a visible acceleration in its growth rate as well as per capita income since the initiation of economic reforms in 1991. It should be matter of great concern for the policy makers that in this optimistic scenario, the agricultural sector should face a deceleration in its growth rates of aggregate yield and output and the process of agricultural diversification should slow down. A more serious matter is that agricultural workers constitutes 58% of total work force should be

facing deceleration in their productivity and income levels as well asdistress during the post reform period.

So many studies done by the researchers on agriculture but these studies based on trends and relationship of the agriculture. No one give emphasis on the marginalization of agriculture. Above discussion shows that the changing behavior of agriculture and economy which needs to analysis to the subject matter. Therefore , the present problem of research intends to analyze the marginalization of agriculture in Chhattisgarh in post globalization period.

3.A Brief Review of the work already done in the field:

Literature review revised that research work on agriculture has been divided in to two broad streams. First, performance of agriculture, growth rate, trends of productivity and wages etc. and on the other hand relationship between agriculture and its variables. But all of these studies not tell the marginalization of agriculture because of its independency.

Growth in agricultural output in terms of area and yield components, beginning with the first systematic study of Minhas and Vaidhyanathan (1965). A number of studies on the measurement of productivity have been carried out.

The review of literature has covered the broad three themes i.e. growing inequalities, growth performance over time and the relationship of agriculture with technological and other economic variables. It is also tried to cover more recent researches in the field.

A large number of studies have been carried out on agriculture during post independence period and have concluded about the degree and direction of agricultural development. This section provides the review of such studies on the basis of which the present study is formulated and analyzed. The review is also provides the direction of researches on agriculture and gaps in the studies. Of the vast literature only those studies are incorporated which seems to be related with the present research.

A.R Prasad &Amarnath Tripathi (1) in "Agricultural Development since Independence" (2009),concluded that growth trend of aggregate agriculture as well as all sub sector of agriculture except forestry is showing declining trend during post WTO period.

S.Mahendra Dev (2) in "Challenges for Revival of Indian Agriculture"(2009) , found that in the post reform period growth of agriculture is low and caused of farmers suicides.

G.S.Balla and Gurmail Singh (3) in" Economic Liberalization and Indian Agriculture: A state level Analysis"(2009), concluded that performance of agriculture at the state level in India during post reform period has been characterized by deceleration in the growth rate of crop yield as well as total agricultural output in most states

G.S. Balla (4) in "Agricultural growth and Regional Variation in India in a Globalizing World : Some Aspects of Macro Economy, Agriculture and Poverty"(2006) focused that the most important reason for the deceleration in the growth of agriculture during 1990's has been a significant deceleration in the public and over all investment in agriculture.

A.S. Mathur and Surjit Das (5) in "Statues of Agriculture in India : Trends and Prospects", (2006)analyses the determinants of agricultural growth at all India level (for the period of 199o-91 to 2002-03) and concluded that the investment of Government in agriculture sector , subsidy, agricultural prices and usages of electricity are the significant factors that decide the production flow of Indian agriculture.

Ravi Srivastavs and Richa Singh(6) in "Rurral Wages During 1990,s : A Re-Estimation",(2006) have studied that state trends in rural wages in manual agricultural and non agricultural operation . Their studies had revealed that at all India level the annual growth rate for total real wages for manual casual labor in agriculture decelerated in 1983-2000.

C.H.Hanumantha Rao (7) in "Agriculture, Food Security, Poverty and Environment"(2005) found that the uneven regional growth was mainly responsible for the low absorption of labor within agriculture, in a large number of states , especially in those region where there was abundant availability of labor the growth of agricultural output was too slow to generate adequate employment opportunities.

Gagan Bihari Sahu and D. Rajshekhar(8) in "Banking Sector Reforms and Credit Flow to Indian Agriculture"(2005) ,emphasized the importance of administered allocation of credit to the

priority sector at concessional interest rate for agriculture and found the positive result

Abhijit Sen and M.S. Batia (9) "State of Indian Farmer: A Millennium Study- Cost of Cultivation and Farm Income" (2004) have shown that the growth of per hectare input use at constant prices in agriculture decelerated during 1990,s

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Bishwajit Dhar and Murali Kallmal(10) in "Trade Liberalization and Agriculture: Challenges before India" (2004) concluded that thro ought the 1990,s the share of agriculture in gross capital formation (at constant prices) has remained in single digit, which explains the slacking of growth momentum during the past decades.

Praduman kumar and Surabhi Mittal(11) in "Agricultural Productivity Trends in India: Sustainability Issue"(2006) study showed that agriculture has been experiencing diminishing returns to input use and a significant proportion of the gross cropped area has been facing stagnation or negative growth in factor productivity.

G.S. Balla and Gurmail Singh (12) in "Indian Agriculture; Four Decades Development"(2001) noted that investment in irrigation and tube wells and additional use of fertilizers and new seeds helped in raising the productivity levels.

K.P.Kaliranjan,G. Mythili and U.Sankar(13) in "Accelerating Growth Through Globalization of Indian Agriculture"(2001) explained that two important reasons for the slowdown are that there was no major breakthrough in developing new high-yielding varieties during the 1990,s and there was a decline in the environmental quality of land which reduced the marginal productivity of modern inputs.

M and G. Datta (14) in "When is Growth Pro- Poor" . Evidence from the Diverse Experiences of India's States(1999) conclude that average farm productivity and living standard of rural poor has a direct relationship. Partha Das Gupta (1998) is also agreed with him.

S.Fan, P.Hazell and S. Thorat (15) in " Linkages Between Got Spending, growth and poverty in rural India"(1999) used Indian data to estimate the return of alternative investment in rural India on agricultural total factor productivity and poverty reduction and found a positive impact on both variables came from investments in road and

in agricultural research and development and extension, which apart from increasing income had much of their effect through wage increases and lower food prices. A significant number of researches suggest that agricultural growth promotes poverty reduction and it is an engine of growth at the early stages of development.

M.S. Batia (16) in "Rural Infrastructure and Economic Development :A regional Analysis" (1999) establish a strong positive relationship between rural infrastructure and level of per hectare of food grains.

S.D. Shivakumar, R Balasubramanium and N. Srinivasam(17) in Growth Linkage Effects of Agro –Industrialization"(1999) establish empirical evidence of high forward linkage of agriculture due to the presence of agro- industries via the incentive use of purchased input in the agriculture sector.

Munisamay Gopinath and Terry Rao (18) in "Sources of Sectoral Growth in an Economy wide Context: The Case of US Agriculture" (1997) have a significant positive relationship between infrastructure and agricultural productivity.

S.D.Sawant and C.V. Achutan (19) in "Agricultural Growth Across Crops and Regions"(1995) found that increasing preference to nonagricultural sector involving a shift of resources away from agriculture in predominantly dry fanning region, which is a cause of slow agricultural growth in the region.

P.K.Bardhan (20) in "Land ,Labor and Rural Poverty"(1984) concluded in his study that average daily earning in agricultural operations by men belonging to agricultural labor households had declined in real term for the whole rural India for the period of 1964-65 to 1974-75.

Chavan Pallavi and Bedamatta Rajshree(21) in "trends in Agricultural Wages in India (2006) found the same conclusion for the period of 1964-65 to 1999-2000.

C. Rangaranjan (22) in "Agricultural Growth and Industrial Performance in India"(1982) estimate for India, showing that growth in agriculture generates growth in manufacturing and growth of the overall economy.

B.K. Roy (23) in "Depressed Areas and Zonation of Districts to set up of Physiographical Region in India"(1974) attempted to find up the performance of agricultural sector and the nature of regional disparities in the level of agricultural development came to the conclusion that there is divergence from the inverted U shaped path of agricultural growth in the sixties and seventies.

Prasad and H. Pradhan(24) in "Poverty and Agricultural Development" (1985) confirmed the above fact that the regional variation in support of new technology and extent of irrigated area have strong bearing on the rate of growth in agricultural output and yield per hectare.

Sen (25) in " Regional Structure of Development and Growth in India" (1969) confirming the above fact hold the view that the main cause of the divergence was the uneven spurt of new technology and irrigation facilities in Indian agriculture.

Bhalla and Alagh (26) in " Regional Structure of Development and Growth in India" (1979) made an attempt to study the regional variations in the level of agricultural development at the national level coming to the conclusion that Punjab and Haryana recorded a remarkable growth of output and yield per hectare but the state like Orissa , Maharastra and Andrapradesh decelerated more particularly after the Green Revolution.

Krishna Bharadwaj (27) in "Regional Differentiation in India"(1982) observed that the benefits of Green Revolution accrued to those districts where there were either good rainfall or irrigation facilities. The new technology appeared to have been adopted in those regions where the producers were better off and with more public investment in irrigation facilities and concluded that regional development disparities in agricultural development and growth existed not only across the states but also within the states.

S.K. Mukhopadhyaya (28) in Sources of Variation in Agricultural Productivity :A Cross Section Time Series Study in India"(1976) analyzed the regional variation in agricultural development in terms of differences in factor efficiencies and came to the conclusion that introduction of fertilizer technology during 70,s has contributed in higher level of production and productivity but the additional work

force engaged in agriculture then has accentuated the degree of under employment resulting in a sharp decline in marginal productivity of agricultural workers.

R.T. Tiwari and Narsingh (29) in "Development and Productivity in India : A Cross Sectional Temporal Analysis"(1985) constructed a composite index incorporating eight indicators and using weighted co efficient of variation. They concluded that the relative ranking of the states has remained almost the same and there has been a major decline in agricultural disparities, during the study period.

Kantawala and Rao (30) in "Sectoral development in India: An Inter State Analysis" (1992) made an attempt to analyze the inter state disparities in sectoral development in India during 1970-71 to 1985-86,selecting 8 agricultural indicators, 12 industrial indicators and 6 indicators from the service sector and constructed a composite index of sectoral development. They used rank correlation analysis to show the changes in the rank of the states and analyzed the relative position of the states with respect to all sectors coming to the conclusion that the disparities among the state have reduced in the case of industrial and service but have increased for agricultural sector.

B.N Verma and H.C.L.Das (31) in "Regional Pattern of Agricultural Development in India (1891-1976) : An Institutional Approach"(1995) with a different approach , tries to analyze the performance of agriculture in regional framework in pre and post independence period , linking it to the historical legacy of land tenure system, dividing Indian agricultural sector in to 4zones-Zamindary,Raytwari, Mahaldari and Jagirdari. The composite index of agricultural efficiency showed that Mahaldari region remained at the top, (Punjab and Haryana) followed by Raytwary region in both pre and post independence period (tamilnado, Karnataka, Kerela, AndraPradesh Maharastra,Gujrat). While Zamindari(West Bengal, Bihar, Orissa ,Uttar Pradesh and Assam) and Jagirdari (MadhaPradesh and Rajastan) regions remained at the bottom . the study showed that the planned efforts have not been able to alter the basic agragian structure to control the socio- economic cross currents and institutional forces.

Rajni Jain, Alak Arora and S.S. Raju (32) in "A Novel Adoption Index of Selected Agricultural Technologies: Linkages With Infrastructure and Productivity" (2009) shows that variations in agricultural productivity in different states across the country are mainly due to the large differences in the level of adoption of selected agricultural technologies and the underlying determinants of the

adoption of these technologies. The functional analysis has revealed that infrastructures like electricity, irrigation, credit and extension organizations positively influence the adoption of the improved technologies. The study has suggested there is a need to formulate policies which would help to increase the availability of electricity , irrigation and institutional credit and improve the access to the organizations for the adoption of improved agricultural technologies and enhancement in productivity.

H.P.Binswanger, D.Khader and G. Feder(33) in "Agricultural Land Relations in Developing World"(1993) have found that investments in rural infrastructure lowered transportation costs increased farmers access to markets and led to substantial agricultural expansion.

S.Fan, P. Hazell and S. Thorat (34) in Government Spending , Growth and Poverty in Rural India" (2000) have found that govt. expenditure on productivity growth was most effective when it was spent on rural infrastructure and agricultural research and development.

G.S.Bhalla and G. Singh (35) in " Indian Agriculture: Four Decades Development"(2001) have noted that the investment in irrigation and tube wells, additional use of fertilizers and new seeds helped in raising the productivity levels. They have also found higher production elasticity for fertilizers, tube wells, tractors, irrigation and regulated markets. They have suggested that production was more responsive to modern inputs and infrastructure. The spread of technology in agriculture also depend on physical and institutional infrastructure.

S. Thorat and S. Sirohi (36) in " Rural Infrastructure : State of Indian Farmers, A Millenium Study" (2002) have used 10 explanatory variables viz. transport, power, irrigation, tractors, research , extension, access to agricultural credit facilities, regulated and wholesale markets, access to fertilizers sale point and commercial banks, covering physical, financial and research infrastructures. They have reported that transport, power , irrigation and research were the four critical components affecting agricultural productivity significantly. Along with the HYVs , the increased consumption of fertilizers also contributed towards raising yield and output.

S.L.Shetty (37) in " Structural Retrogression in Indian Economy Since the Mid- Sixties"(1978) wrote about the structural retrogression of economy since the mid-1960s. He pointed out that agriculture though remained the main sector which fluid economic growth but since the mid -60 inspire of the implementation of new strategy the growth rate is not accelerated. The production of pulses and food – grains suffered as cash crops for given priorities. He concluded that the planning was tardy with priorities getting mixed up and core area like agriculture got marginalized.

Prabat Patnaik (38) in "Accumulation Process in the period of Globalization"(2008) wrote a seminar paper that the period of 1970s was an excess demand for cereals which later got diminished because of income deflation on the working people in the short run income deflation helped in keeping the price of food grains in control but in the long run it has resulted in the inability of peasant agriculture. In spite of structural and technological changes in Indian agriculture the land ownership pattern has not changed much. The tendency of capitalism has resulted in the disposition of vast masses of peasantry. As a result the agriculture sector has shown a dichotomy where large tracts of land are owned by a few and very small pieces have further got fragmented. He concludes that today India has the choice between mass hunger and starvation on one hand and socialism on the other.

Nagesh Kumar (39) in " Economic Reforms and Their Macro ECONOMIC Impact" (2000) hold the view that after a decade of liberalization and privatization the state has played a pivotal role for the economy to move forward. Agriculture still continues to be a sector of prime importance and development of all the other areas has resulted in the neglect of this sector which is important for the growth of the economy.

Mahendra Dev (40) in " structural Reforms and Agriculture: Issues and Policies" (2009) conclude that the slowing down in agriculture is linked directly to structural macro economic reforms in the country and globalization. This view is limited and the slowing down in agriculture is not due to industrial and trade reforms including joining of WTO. Slowing down of agriculture growth could be attributed to the structural factors on the supply side as decline in public investment, credit, technology etc. rather than trade and industrial reforms. The adverse effect of structural reforms were more to do with the manner in which reforms were undertaken in the country rather than intrinsic to structural reforms. Also there have been positive effects on the agriculture in terms of improvements in terms of trade, private investments, technology and specialization in agriculture. The negative effects can be reduced with a factor on supply side factors in agriculture.

Abhijit Sen and M.S. Bhatia(41) in "State of the Indian Farmer" (2004) examined the reasons for the low agricultural growth and found that one of the reasons for the decline in output growth and farm business income was low yield growth in the post reform period. The reduction in yield growth in turn was largely a result of reduction in input growth in agriculture. The study also shows that the growth of per hectare input use at constant prices decelerated from 3.66% per annum during the 1980,s to 0.94% per annum during the 1990,s. the same study has revealed that combination of input price increase and inadequate expansion of public infrastructure could be responsible for the deceleration in growth of input use.

Paramita Dasgupta and Debesh Chakrabati (42) in "Structure of the Indian Economy" (2005) sighted the fact that the pace of transition of the Indian economy from an agricultural economy to an industrial one was quite slow since 1951. It was in the decade of the 80,s the economy emerged from the phase of slow growth rate and deceleration. Finally , a major shift in the macroeconomic policies in the decade of the 90,s accelerated the pace of the structural transformation of the Indian economy and set India on a high growth factory. In terms of average growth rate, the performance in90,s (6.5%) was better than that recorded in the 80,s (5,8%) . While both the industrial and service sectors registered relatively high growth rates during the recent period, agriculture and allied activities experienced a relatively low rate of growth as compared to the eighties. This underlines a major structural shift in the Indian economy

in recent tears, with economic growth becoming more vulnerable to the performance of industrial and service sectors to the performance of the agricultural sector.

A .Narayanamoorthy (43) in "Deceleration in Agricultural Growth: Technology Fatigue or Policy Fatigue" (2007) has argued that the crises in Indian agriculture is mainly due to the lack of appropriate policy rather than technology.

Amarnath Tripathi and A.R.Prashad (44) in " Agricultural Development Since Independence" (2009) conclude that growth trend of aggregate agriculture as well as all sub sector of agriculture except forestry is showing declining trend during post WTO period.
Praduman kumar and Surabhi Mittal's (45) in " Agricultural Productivity Trends in India: Sustainability Issues" (2006) focused that agriculture has been experiencing diminishing returns to input use and a significant proportion of the gross cropped area has been facing stagnation or negative growth in total factor productivity.

G.S. Balla (45) in " Indian Agriculture Since Independence"(2007) argued that the most important reason for the deceleration in the growth of agriculture during the 1990,s has been a significant deceleration in the public and overall investment in agriculture.

Patel, Pravin (46) in "A report on my visit to HINDALCO's Bauxite mines at Samri in Sarguja Dist. Of Chhattisgarh"(2008), pointed out that heavy emphasis for the industrial development and the negligence towards agriculture has lowered down the income employment and standard of living of the people in the state.

4.Objectives:

Looking at the above discussion the present study is proposed to carry out the research taking the study of the condition of agriculture in post globalization period. With this reference main objectives of the study are-

1. To analysis the structural transformation of agriculture in Chhattisgarh in the post independence period.

2. To study the trends in agriculture in Chhattisgarh in post liberalization period with all the facets of growth, productivity, diversification, subsidies, investment, technology expansion and exports.

3. To examine the changing pattern of agriculture in the state with respect to other sectors under WTO regime.

4. To identify the area and regions of agricultural marginalization in the state with respect to changing state agricultural process.

5. To identify and analyze the components and features of agricultural marginalization in Chhattisgarh.

6. To suggest future strategy for agriculture development in the state based on the conclusion.

5. Noteworthy contribution in the field of proposed work: The study is proposed.

6. Proposed Methodology:

The study will be based on secondary data. The secondary data related with agriculture will be acquired from the Central Statistical Organization and Statistical Hand Book of Indian Economy by Reserve Bank of India and Agriculture at a Glance of the agricultural Department for the post globalization period, for all India and state level. To explain the condition of agriculture, large number of independence variables consisting of production of crops, wages, subsidies, plan outlays etc. will be collected from the various sources. The study will incorporate simple and relevant statistical techniques for the analysis to obtain the conclusive result. To find out the comparative measure of marginalization of agriculture by simple measure of mean, standard deviation, co-efficient of variation will be used. Simple bi-variate and multi-variate correlation and regression analysis and factor analysis will be carried out to measure the degree and direction of relationship. For the analysis of marginalization of agriculturein the state Production Function and Structural Equation System will also be used.

Hypothesis:

Thy study of the process of globalization and agricultural development in Chhattisgarh is based on the general hypothesis that the process of globalization under WTO regime has brought general focus on the manufacturing and service sectors and gradual withdrawal of the state has created the conditions of the stagnation of state agriculture. The study proposed the following hypothesis for test. The focus has shifted to service and manufacturing during globalization period and agriculture is pushed to the margins.

7.Expected outcome of the proposed work.

The study intends to analysis the marginalization of agriculture with reference to economic growth. The study is expected to give following results—

1. It is expected that marginalization of agriculture is indicated through growth, productivity, investments in agriculture, subsidies and agricultural exports along with income and employment.

2. Another result is expected from the study that the infrastructure and other indices like wages, subsidies and investment will have a direct effect on agriculture. During post globalization the withdrawal of state had led to the marginalization of agriculture.

3. The structural adjustment in the state economy under WTO regime promoted more to the industry and service sector thereby neglecting agriculture.

Contribution to the subject :

A large number of studies have carried out at different level covering different dimensions of agriculture in Chattisgarh.But marginalization of the state agriculture has been superficially studies and no serious attempts has been made to identify the process. The study will be a comprehensive analysis of agricultural sector.

Finally, it is expected that the study of marginalization will add to the existing knowledge of the subject about agriculture in terms content.

8. Proposed Chapter Scheme.

1. Introduction.

2. Structure of Chhattisgarh Economy.

3. Concepts and Literature Review.

4. Comparative Analysis of Sectors of Chhattisgarh Economy.

5. State Agricultural Policies and The Process of Globalization.

6. Indicators of Marginalization of Agriculture in the state.

7. Identification of Spaces and Impact of Globalization on Agriculture

8.State Agricultural Development after Globalization.

9. Conclusions and Suggestions.

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